

Weekly Report

Period: 04/22/2013 – 04/28/2013

Projects

This week, we had a short discussion on the future work of our climate-vis project. Every team member got their own work items. By now, Zhiyu has finished the new rendering shader that allows the eye-position in volume dataset. This is a great progress. I roughly reviewed the code. More optimization should be done in the next week. Xin was always working on the camera part. Haonan implemented the depth peeling technique with his demo project, hoping that he can incorporate this feature in our system ASAP. More details can be reviewed in their weekly reports.

In the last week, I decide to design a multi-client supported visualization engine. This frame work can be deployed on normal PCs, Browser-based applications, and Large-screen system. I name the basic engine as VisNG. Inspired by the design of game engine, it consists of six subsystems, see figure 1.

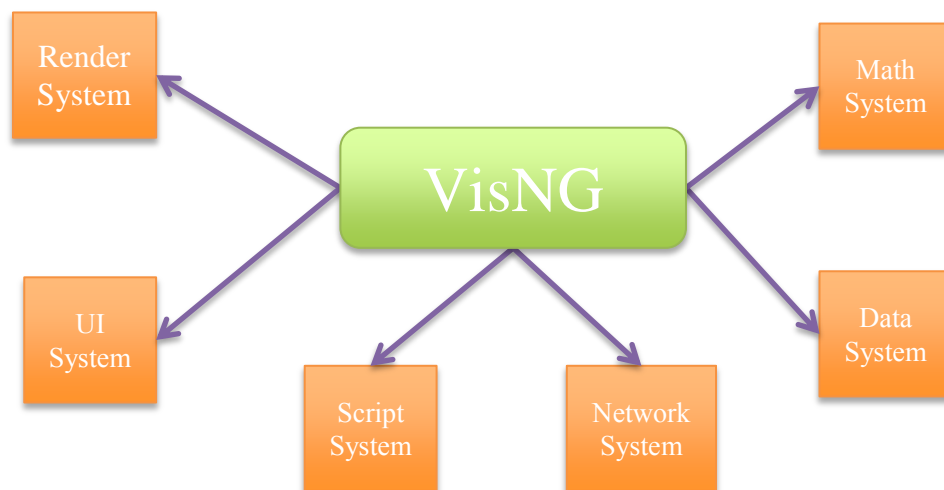


Figure 1 Subsystems of the VisNG

VisNG cannot only be deployed as a client on normal PC, but also can be deployed on the node machines of the CPU/GPU cluster, see figure 2. I will elaborate the design by discussion with other team members. Once the basic design is done, we will have a discussion on the implementation part. Our goal is to implement the first version of our multi-client supported visualization engine in this summer.



Figure 2 The framework of the CPU/GPU visualization cluster.

Research

Because we have been working on the preparation for several deadlines, few efforts have been put on my research project.

In this week, I have been thinking about how to translate my vis2013 work into a patent. After a discussion with Prof. Chen, I will turn to working on applying patents for the climate-vis projection. Roughly, Zhiyu should apply two patents. One is spherical volumetric data visualization and compression of time-varying volumetric data.

Work to be done in next week

- Come with some ideas for my research project, especially the parameter study research project
- Work out the plan of patent applications

Reference: